# Claims as amended in PCT Chapter II proceedings

## ART 34 ANDT

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1. A process for preparing modified metal exides or metal aquoxides that are dispersible in organic solvents characterised by the following steps

by reaction of

one or a plurality of metal oxide(s) or metal (A) aquoxide(s) having a crystallite size of 4 to 100 nm, determined by x-ray diffraction on the 021 reflex, and a particle size of 5 to 500 nm. determined by photon correlation spectroscopy in dispersion

with

Claims

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one or a plurality of organic sulfcnic acid(s), (B) where

in case the reaction takes place in a (±) mainly aqueous medium or in the absence of a diluent/solvent, the organic sulfonic acid is a mono-, di-,\or trialkylbenzene sulfonic acid, wherein the alkyl residue(s) are C1 to C6 alkyl residue(s) and wherein the component (A), calculated as metal oxide, and (B) are used at weight ratios from 98:2 to 70:30, or

(ii) in case the reaction takes place in the presence of an organic aprotic solvent or an organic protic solvent, the organic sulfonic acid comprises at least 14 carbon atoms and at least one aromatic ting, and wherein the components (A), calculated as metal oxide, and (B) are used at weight ratios from 98:2 to 70:30.

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- (II) drying the modifieded metal oxides or metal aguaoxides, and
- (III) dispersing in organic solvents to get a dispersion
- 2. The process of claim 1,

  characterized in that as metal oxides or metal aquoxides, such metal oxides or metal acuoxides containing aluminium, preferably aluminas, alumina hydrates, particularly preferred boehmitic or pseudoboehmitic aluminas, aluminum silicate, or

Si/Al mixed oxides are employed.

- 3. A process according to any one of the preceding claims, characterized in that the organic sulfonic acid is toluenesulfonic acid, preferably p-toluenesulfonic acid.
- 4. A process according to claim 1 or 2,

  characterized in that the organic sulfonic acid is

  an organic compound of the R-so<sub>3</sub>H type, in which R

  is an alkyl-substituted aromatic hydrocarbon residue

  with 16 to 24 carbon atoms.
- 5. A process according to any one of the preceding claims,

  characterized in that the metal oxides or metal aquoxides and the organic sulfonic acid are brought into contact at temperatures from 0 to 140°C, preferably from 0 to less than 90°C.

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- 6. A process according to any one of the preceding claims, characterized in that the metal oxides cr metal aquoxides are brought into contact with the organic sulfonic acid for a period from 30 seconds to 7 days, preferably from 30 to 90 minutes, and preferably with stirring.
- 7. A process according to any one of the preceding claims,
  characterized in that the modified metal oxides or
  metal aquoxides are dried by spray drying, freeze drying, microwave drying, drying in supercritical solvents, filtration, contact drying, or rotary drum drying.
- 20 8. A process according to any one of the preceding claims,

  characterized in that the modified metal oxides/

  metal aquoxides are dispersible in organic solvent
  as dispersions having a solid content of 10 to 35

  www. preferably 20 to 30 wt%.
  - 9. A process according to any one of the preceding claims, characterized in that the modified alumina hydrate is processed into molded articles by extrusion, pelleting, or spherical drop forming processes.

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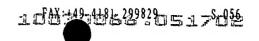
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- A process according to any one of the preceding 10. claims.
- characterized in that the metal oxides or metal agu-5 oxides are taken up in an organic solvent and this solvent\ is exchanged for a second solvent.
- 11. Metal oxide or metal aquoxide dispersion obtainable 10 by the use of a dispersant and a metal cxide or metal aquoxide according to any one of the preceding claims, wherein the dispersant
  - a aprotic polar organic solvents,
  - a protic, polar organic solvents having at least two carbon atoms, and/or
  - a apolar organic solvents.
  - 12. Metal oxide or metal aquoxide dispersion of claim 11,
- 20 characterized in that the dispersion contains an additive of at least one\organic polymeric/oligomeric viscosity-adjusting agent, preferably cellulose, a cellulose derivative, a poly-acrylate, or a polyvinyl alcohol.

Metal oxide or metal aquoxide dispersion of claim 11,

characterized in that the dispersant is a solventbased paint or lacquer or a water insoluble

plastics. 30



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- 14. Use of the metal oxides or metal aquoxides 5 dispersions of claim 11 for preparing coatings, preferably transparent coatings on foils, metals/metal oxides, glass, PVC, and other plastics.
- 15. Use of the metal oxides or metal aquoxides dispersions of claim 11 for the production of 10 catalyst carrier.

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